Why Getting the Latest Covid-19 Vaccine Matter?

Rontgene Mantua Solante, MD., FPCP, FPSMID, FIDSA

National President, Phil College of Physicians (PCP), 2023-2024 Chair, Adult Infectious Diseases Tropical Medicine San Lazaro Hospital Past President, PSMID Member, DOH Scientific Advisory Group of Experts in Emerging and Re-emerging Infectious Diseases

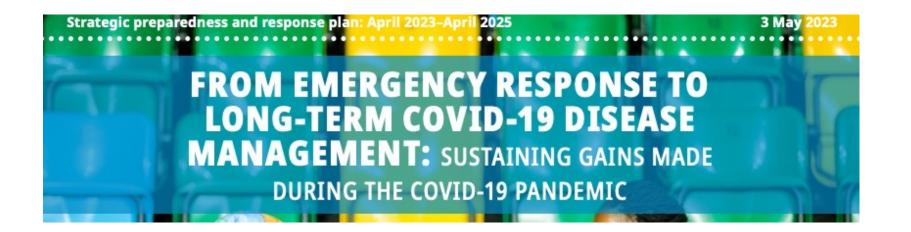
NEWS

PBBM lifts State of Public Health Emergency throughout PH due to COVID-19

Published on: July 22, 2023 Updated as of July 22, 2023 2:05 pm By PCO

COVID-19 remains to be a serious concern for certain subpopulation and requires continued public health response







- 1. <u>Sustain the national capacity gains</u> and prepare for future events
- 2. <u>Integrate COVID-19 vaccination</u> into life course vaccination programmes.
- 3. <u>Respiratory pathogen surveillance</u> data sources to allow for a comprehensive situational awareness
- 4. Prepare for medical countermeasures
- 5. Continue to <u>work with communities and their leaders</u> to achieve strong, resilient, and inclusive risk communications and community engagement

5 core components of COVID-19 Health emergency preparedness, readiness and response (HEPR)



5 core components of COVID-19

Health emergency preparedness, readiness and response (HEPR)

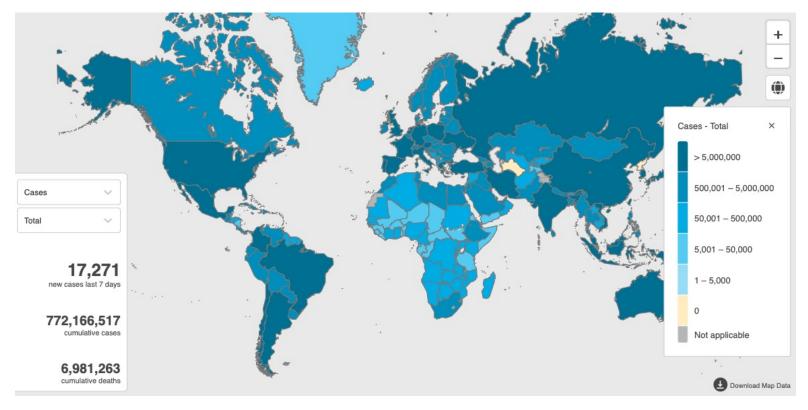
HEPR core component	COVID-19 operational pillar
Emergency coordination	Pillar 1. Coordination, planning, financing and monitoring
Collaborative surveillance	Pillar 3 . Surveillance, epidemiological investigation, contact tracing and adjustment of public health and social measures Pillar 5 . Laboratories and diagnostics
Community protection	Pillar 2 .Risk communication, community engagement (RCCE) and infodemic management Pillar 4 . Points of entry, international travel and transport, mass gatherings and population movement
	Pillar10. Vaccines research, policy and strategy

Global impact of the first year of COVID-19 vaccination:

- Findings
- Vaccinations prevented 14·4 million (95% credible interval [Crl] 13·7–15·9) deaths from COVID-19 in 185 countries and territories between Dec 8, 2020, and Dec 8, 2021.
- <u>19.8 million (95% Crl 19.1–20.4) deaths from COVID-19 averted</u> when we used excess deaths as an estimate of the true extent of the pandemic, representing a <u>global reduction of 63% in total deaths (19.8 million of 31.4 million)</u> during the first year of COVID-19 vaccination.
- In COVAX Advance Market Commitment countries, we estimated that In low-income countries,
 - 45% (95% CrI 42–49) of deaths could have been averted had the 20% vaccination coverage target set met
 - 111% (105–118) of deaths could have been averted had the 40% target set

Globally, 22 November 2023, there have been 772,166,517 confirmed cases and 6,981,263 deaths COVID-19

6 November 2023, a total of 13,534,602,932 vaccine doses have been administered





Results of COVID-19 Vaccine Effectiveness Studies: An Ongoing Systematic Review

Forest Plots: Vaccine Effectiveness against Omicron Variant of Concern

Updated October 23, 2023

Prepared by:

International Vaccine Access Center, Johns Hopkins Bloomberg School of Public Health

and

World Health Organization

and

Coalition for Epidemic Preparedness Innovations

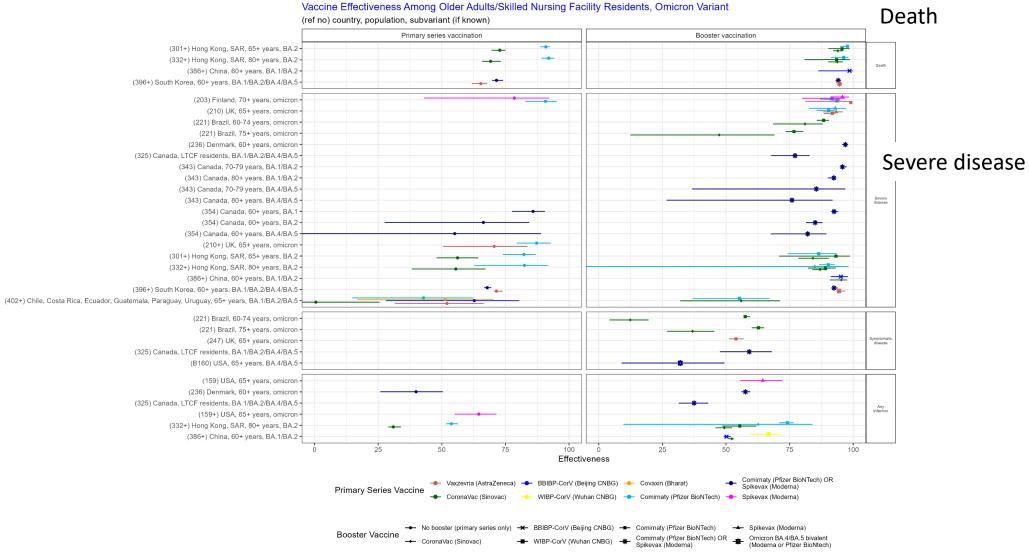






Vaccine effectiveness among older adults

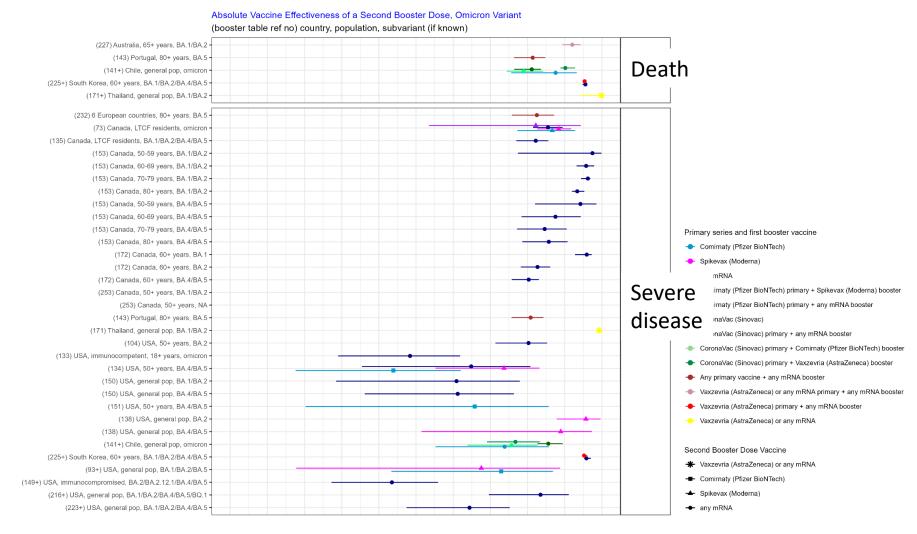
By Study Population of Special Interest



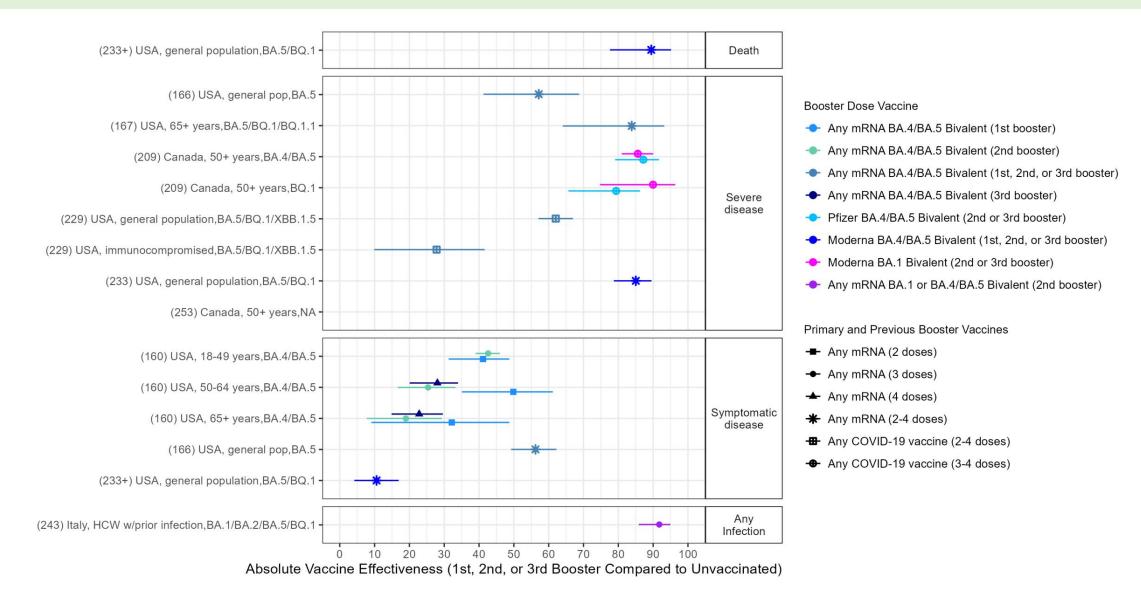
+ indicates follow-up period for primary series VE that extends beyond 4 months.

Second booster Vaccine effectiveness vs , Omicron

SECOND BOOSTER DOSE ABSOLUTE VACCINE EFFECTIVENESS AGAINST OMICRON



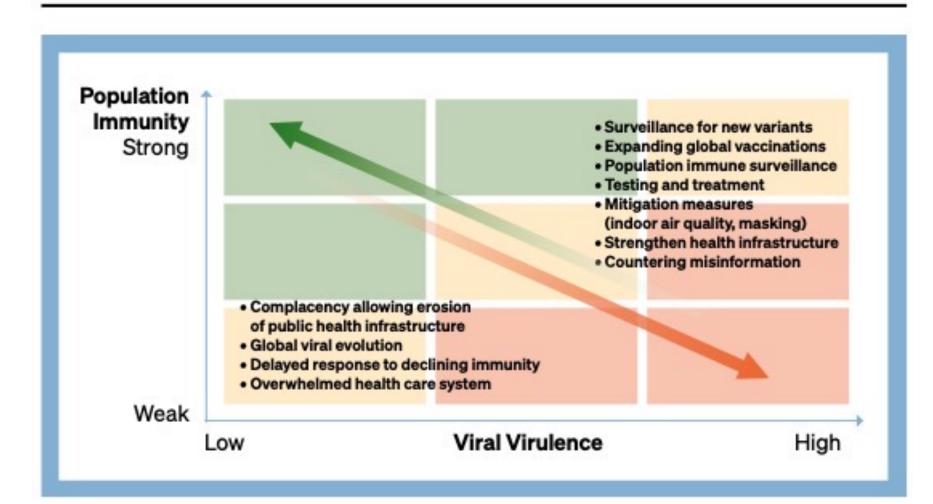
Absolute vaccine effectiveness of bivalent mRNA vaccines 1st, 2nd, 3rd booster



MEDIUM				
ja ja	COVID-1	9 Risk Stra	atification	
RISK	Lower Risk			Higher Risk
Age (years)	<30	30-49	50-69	≥70
Chronic medical conditions (eg, diabetes, obesity)	None	1	2	3+
Immunosuppressive conditions or medications	Con None Biologics	rticosteroids Antimetabolites	Lymphod Solid organ transplant AIDS	
Vaccination status	Full vaccination plus boosting	Full vaccination	Partial vaccination	Unvaccinated

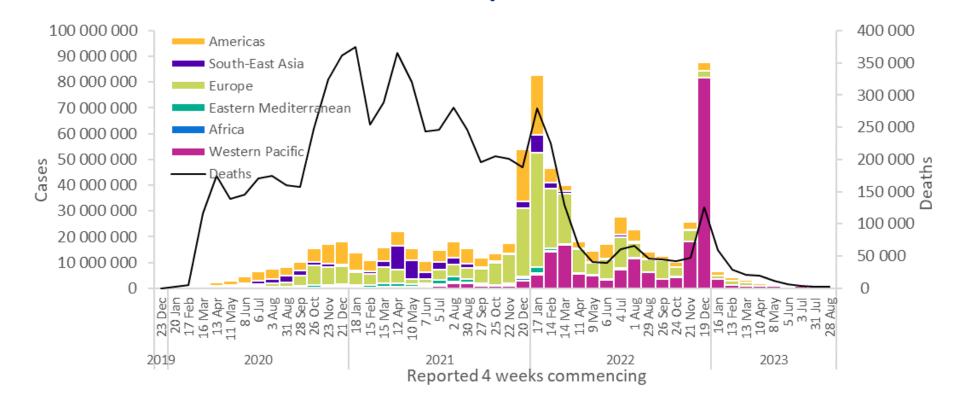
Illustration adapted from IDSA. Reproduced with permission.

Interventions that Impact which Scenario is More Likely

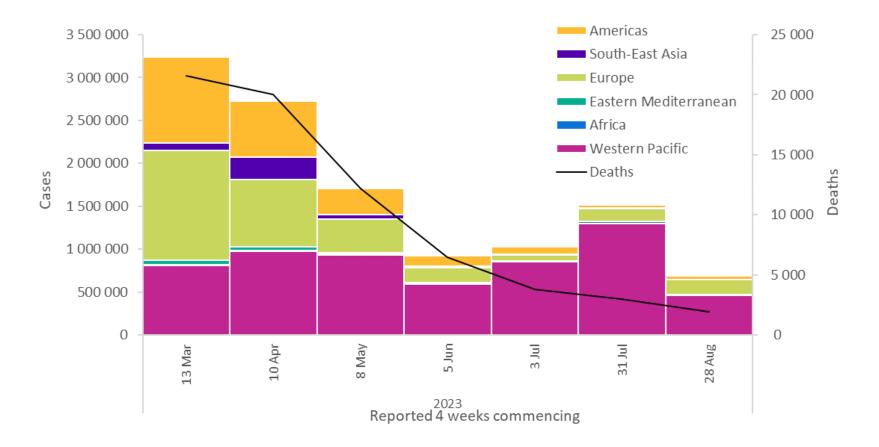


Does Getting the latest Covid-19 vaccine matter?

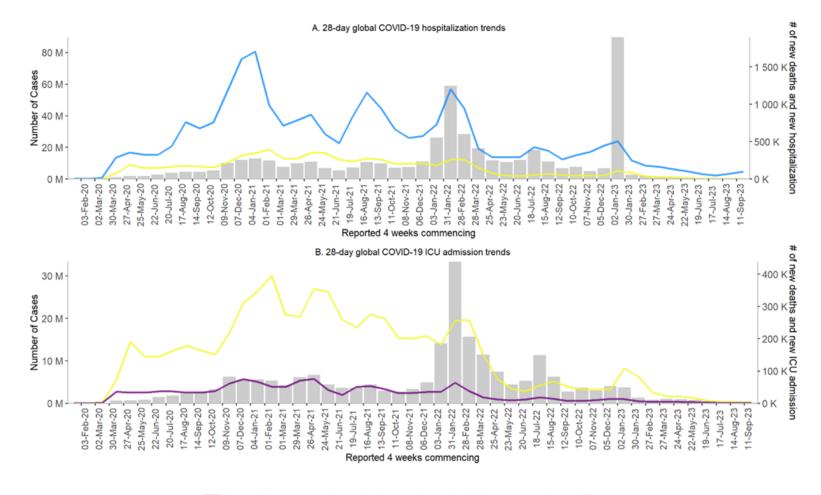
COVID-19 cases reported by WHO Region, and global deaths by 28-day intervals, as of **24 September 2023**



COVID-19 cases reported by WHO Region, and global deaths by 28-day intervals, ^B 13 March to 24 September 2023



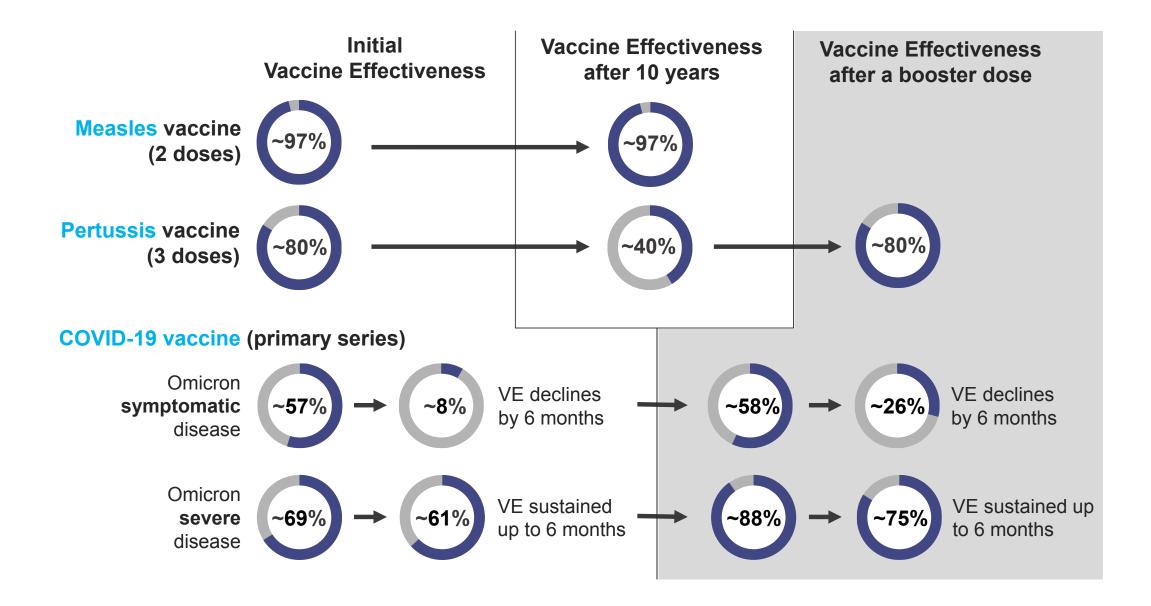
28-day global COVID-19 new hospitalizations and ICU admissions, as of 17 September 2023



Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 24 September 2023

WHO Region	Countries reporting cases in the last 28 days	New cases in last 28 days (%)	Change in new cases in last 28 days *	Cumulative cases (%)	Countries reporting deaths in the last 28 days	New deaths in last 28 days (%)	Change in new deaths in last 28 days *	Cumulative deaths (%)
Western Pacific	20/35 (57%)	458 757 (67%)	-65%	207 284 734 (27%)	6/35 (17%)	977 (50%)	-15%	417 745 (6%)
Europe	27/61 (44%)	177 642 (26%)	19%	276 134 635 (36%)	17/61 (28%)	661 (34%)	-54%	2 248 608 (32%)
Americas [§]	21/56 (38%)	38 858 (6%)	3%	193 286 267 (25%)	6/56 (11%)	122 (6%)	-58%	2 959 269 (43%)
Eastern Mediterranean	5/22 (23%)	5 201 (1%)	53%	23 394 122 (3%)	2/22 (9%)	64 (3%)	88%	351 465 (5%)
South-East Asia	7/10 (70%)	3 070 (<1%)	-23%	61 205 037 (8%)	3/10 (30%)	118 (6%)	111%	806 781 (12%)
Africa	16/50 (32%)	1 634 (<1%)	-92%	9 569 874 (1%)	3/50 (6%)	8 (<1%)	33%	175 435 (3%)
Global	96/234 (41%)	685 162 (100%)	-55%	770 875 433 (100%)	37/234 (16%)	1950 (100%)	-34%	6 959 316 (100%)

November 2023



Whom we should prioritize to receive the latest Covid-19 vaccine?

WHO

CONSIDERATIONS WITH REGARDS TO VARIANT-CONTAINING BOOSTERS

- When deciding to implement additional boosters, each country needs to take into
 - age structure of the population
 - the current and potential burden of severe COVID-19 disease and hospitalizations
 - the availability and access to vaccines including variant-containing vaccines;
- near-term preparedness planning, countries should consider demand forecasting for booster doses for high priority-use groups for the years 2023 and 2024

MEDIUM				
ja ja	COVID-1	9 Risk Stra	atification	
RISK	Lower Risk			Higher Risk
Age (years)	<30	30-49	50-69	≥70
Chronic medical conditions (eg, diabetes, obesity)	None	1	2	3+
Immunosuppressive conditions or medications	Con None Biologics	rticosteroids Antimetabolites	Lymphod Solid organ transplant AIDS	
Vaccination status	Full vaccination plus boosting	Full vaccination	Partial vaccination	Unvaccinated

Illustration adapted from IDSA. Reproduced with permission.

WHO Interim Recommendations^a for the optimal use of COVID-19 vaccination: primary series and booster doses in the context of Omicron and high population-level immunity

HIGH priority-use groups						
Target population	Primary series and booster ^b	Additional booster doses	Remarks			
	Groups w	ith the highest risk of death fron	n COVID-19			
Older adults° Younger adults with significant comorbidities or severe obesity	Recommended	Recommended (12 months after previous dose)	Most efficient use of COVID-19 vaccines			
Subgroup of older adults: Oldest adults ^d Older adults with multiple significant comorbidities	Recommended	Recommended (6 months after previous dose)	with greatest impact on reducing deaths.			

2023 WHO SAGE roadmap on uses of COVID-19 vaccines in the context of Omicron and substantial population immunity

WHO Interim Recommendations^a for the optimal use of COVID-19 vaccination: primary series and booster doses in the context of Omicron and high population-level immunity

MEDIUM priority-use groups						
Target population	Primary series and booster ^b	Additional booster doses	Remarks			
Healthy younger adults ⁹ Children and adolescents aged 6 months to 17 years with severe obesity or comorbidities that put them at higher risk of severe COVID ⁱ	Recommended	Not routinely recommended. ^h	Benefit of additional boosters is marginal.			
		LOW priority-use groups				
Target population	Primary series and booster ^b	Additional booster doses	Remarks			
Healthy children and	Countries could	Not routinely recommended. ^h	Benefit and cost-effectiveness of vaccinating			

2023 WHO SAGE roadmap on uses of COVID-19 vaccines in the context of Omicron and substantial population immunity

healthy children and adolescents is substantially lower compared to high and

in childhood.

medium priority-use groups and compared

to most other vaccine preventable diseases

adolescents aged 6

months to 17 yearsⁱ

consider based on

cost effectiveness.

and other health or programmatic

priorities and opportunity costs.

disease burden.

Recommendations for updates to COVID-19 vaccine antigen composition

- XBB.1 descendent lineages predominate SARS-CoV-2 circulation globally. In order to improve protection, in particular against symptomatic disease, new formulations of COVID-19 vaccines should aim to induce antibody responses that neutralize XBB descendent lineages.
- One approach recommended by TAG-CO-VAC is the use of a monovalent XBB.1 descendent lineage, such as XBB.1.5

CDC/ACIP Covid-19 vaccine recommendations , 2023 Sept

Vaccine	19–26 years	27-49 years	50–64 years	≥65 years
COVID-19		2- or 3- dose prima	ary series and booster (See Notes)	

Vaccine	/accine Pregnancy	Pregnancy Pregnancy (excluding HIV infection)	HIV infection CD4 percentage and count		Asplenia, complement	End-stage renal disease, or on	Heart or lung disease;	Chronic liver disease	Diabetes	Health care personnel ^b	Men who have sex
	·			≥15% and ≥200 mm ³		hemodialysis	alcoholismª	uisease		personner	with men
COVID-19			See Notes								

The 2023–2024 formulation COVID-19

 monovalent vaccine based on the Omicron XBB.1.5 sublineage of SARS-CoV-2.

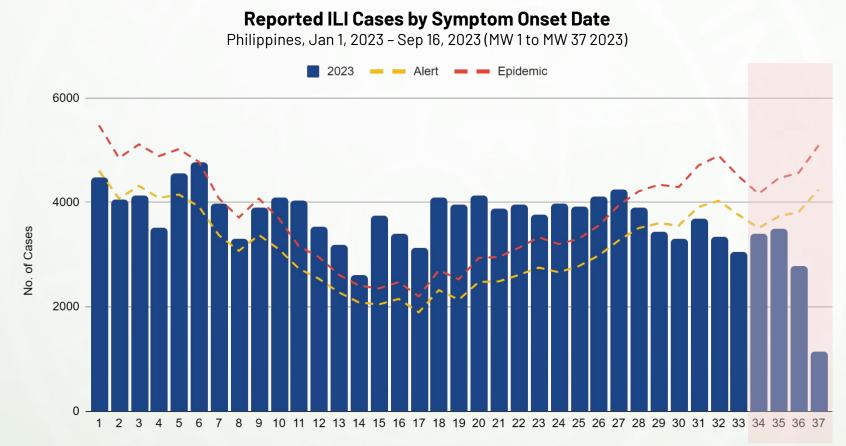
US CDC/ACIP Covid-19 vaccine recommendations , 2023 Sept

COVID-19 vaccination history prior to updated (2023–2024 Formula) vaccine	Number of updated (2023– 2024 Formula) doses indicated	Interval between doses
Unvaccinated Moderna Pfizer Novovax	1 1 2	Dose 1 and Dose 2: 2-3 week
1 or more doses any mRNA; 1 or more doses Novavax or Janssen, including in combination with any Original monovalent or bivalent COVID-19 vaccine doses	1	At least 8 weeks after last dose

US CDC/ACIP Covid-19 vaccine recommendations for people who are moderately or severely immunocompromised, 2023 Sept

COVID-19 vaccination history prior to updated (2023–2024 Formula) vaccine	Number of updated (2023– 2024 Formula) doses indicated	Interval between doses
Unvaccinated Moderna Pfizer Novovax	3 3 2	Dose 1 and Dose 2: 4 weeks Dose 2 and Dose 3: At least 4 weeks
1 or more doses any mRNA; 1 or more doses Novavax or Janssen, including in combination with any Original monovalent or bivalent COVID-19 vaccine doses	1	At least 8 weeks after last dose

Since May 2023, ILI cases have been plateauing with an average of approximately 4,000 cases reported per week; Reported cases in recent weeks are lower compared to the past 5 years



Morbidity Week





Looking at ALL disease reporting units, the primary causative agents that were prominent in previous years are still being observed in 2023, and their strains or sub-types have remained consistent.

Top Causative Agents of ILI cases in the Philippines, from January 1 to September 16, 2023

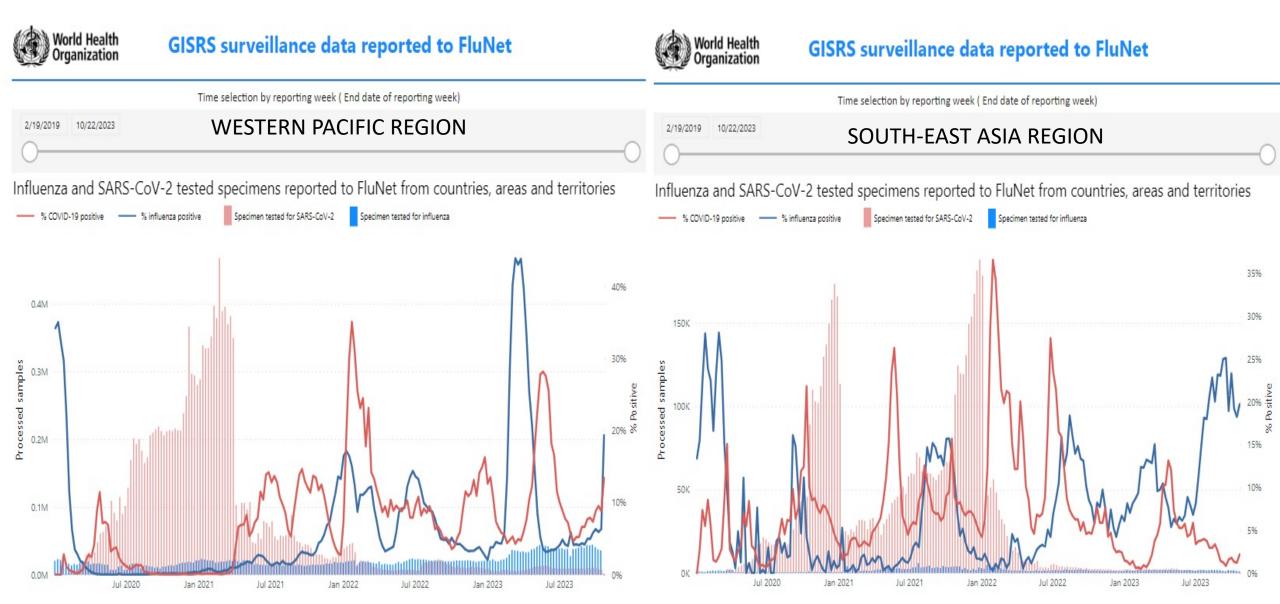
Causative Agent	Total (January 1 - September 16, 2023)	August	September 1 - 16
SARS-CoV-2	536 (44.69%)	5 (18.60%)	1 (20.00%)
Influenza A	249 (15.54%)	4 (9.30%)	1 (20.00%)
Rhinovirus	177 (11.05%)	0 (0.00%)	0 (0.00%)
Parainfluenza	131 (8.18%)	2 (4.65%)	1 (20.00%)
Influenza B	51 (3.18%)	4 (9.30%)	1 (20.00%)
Adenovirus	43 (2.68%)	0 (0.00%)	0 (0.00%)
Enterovirus	30 (1.87%)	0 (0.00%)	0 (0.00%)
RSV	27 (1.69%)	13 (30.23%)	0 (0.00%)

Note: Only cases subjected to RT-PCR testing and cases with only one causative agent were included in the table above. Other causative agents such as HBoV (Human Bocavirus), HCoV (Human Coronavirus), HMPV (Human metapneumovirus) were also detected among positive samples, albeit in relatively low numbers.



ending cludes t





Conclusion

- With new Covid-19 VOCs still causing new infections and hospitalizations in co-circulation with other respiratory viruses, possibility of peaks is expected
- Variant-specific Covid-19 vaccinations is important to protect the priority population at risk of hospitalizations and complications
- Long-term vaccination program should aim in including Covid-19 aside from other vaccine preventable diseases like influenza , pneumonia part of life-course vaccination for vulnerable population
- Surveillance and tracking of ILIs is key to prevention of outbreaks